

## METHOD FOR PRODUCING A LIQUOR FROM SEA URCHIN EGGS

## Technical Field

The invention relates to liquor-vodka industry, namely it relates to strong alcoholic beverages. Also the invention can be used in pharmacology as the homeopathic, medical, treatment-and-prophylactic and fortifying agent having nonspecific, stimulating and strengthening properties raising an immunological reactivity and sex activity of an organism.

## Background Art

It is known a lot of different alcohol liquid extracts produced on the basis of a plant raw material. Also a plenty of various method for producing such extracts by infusing is known [for example, patent RU 2,125,462, 1999]. However such extracts are not enriched with specific proteins and other biological-active substances which contain in sea products.

Various compositions of balsams and methods for their production are known. One of them is chosen as a prototype [patent RU 2,049,813, 1995]. This known liquor-balsam contains extracts of a blend of raw sea animals material such as: muscles of queens, a trepang and sea urchin eggs. Method for producing this liquor-balsam comprises the steps of: sorting out the blend of the raw material; flooding the sorted blend by an alcohol-water mixture having about 40% vol. of alcohol and the volume ratio 1 : (8-25) respectively; infusing the flooded blend either at ambient temperature for 14 days or at temperature from 50° to 60°C for 3 days; further falling of this temperature on 5°C and settling during 3 days. But application of known common technology for production of this liquor-balsam is inadmissible, because special valuable and unique ingredients such as queens, trepang and sea urchin eggs are united in one mix, but each of these ingredients demands application of the unique technology allowing to extract and keep as much as possible biologically active substances of this ingredient. In particular, sea urchin eggs contains (basically in lipids): fat-soluble vitamins A, E, carotenoids, polyunsaturated fatty acids, phospholipids, a rich set of amino acids, in particular, phenyl alanine, vitamins B1, B2, B12, microelements - phosphorus, iodine, copper, molybdenum, iron, magnesium, calcium. In case of infusing at temperature 50-60°C the part of these substances is decomposed. Infusion at ambient temperature is carried out too long, that conducts to increasing cost of the liquor-balsam.

## Disclosure of the Invention

A primary object of the present invention is optimization of a technology for producing a liquor from sea urchin eggs. Another object of the invention is simplification of the inventive technology under condition of preservation of biologically active substances contained in sea urchin eggs in the liquor produced under the invention.

In accordance with the inventive method pre-sorted sea urchin eggs is washed out in a water at temperature equal to or less than 20°C, then the eggs are flooded with a water-alcohol mixture having from 28% to 40% vol. of alcohol at a volume ratio from 1:8 to 1:25 respectively at temperature from 25° to 35°C, afterwards said mixture is infused at said temperature for 1-4 days and then settled at temperature up to 10°C until the clarification thereof. Said process conditions make it possible to save all biological-active substances contained in natural sea urchin eggs with minimum time and labor costs.

More preferably to wash out pre-sorted sea urchin eggs by sea water.

More preferably to infuse the mixture and to settle it in a dark place.

It is possible to settle the mixture together with the sea urchin eggs.

More preferably when the mixture is filtered after the infusing.

The inventive scope of these technological parameters allows to produce a liquor with the original organoleptical properties, having stimulating, fortifying and radomimetic properties, capable to influence an index of an individual radiosensitivity. Therefore the produced liquor can be used not only as a strong alcoholic beverage but also as a medicinal remedy because it contains biological-active components as follows: fat-soluble vitamins A, E, carotenoids, polyunsaturated fatty acids, phospholipids, amino acids, in particular phenyl alanine, vitamins B1, B2, B12, microelements: phosphorus, iodine, copper, molybdenum, iron, magnesium, calcium.

#### The Example for Carrying out the Invention

The invention is explained on a example of producing a liquor from sea urchin eggs.

Roe films of eggs obtained after cutting of fresh sea urchins are sorted out by separating shivers of armours, veins together with simultaneous selection by color (eggs should be bright orange or yellow color). Then the eggs are placed into a perforated dish where the eggs are washed out from residues of viscera and other contaminations by flowing sea water or by repeated dipping into sea water at temperature 10-20°C. After that the washed out eggs are moved to a container by a tweezers or a special fork where are flooded by an ethanol-water mixture having 40% vol. of alcohol heated up to temperature 30°C and at a volume ratio of the eggs to the ethanol-water mixture 1:8. Then this mixture is infused in a dark place at the same

temperature for 2 days. After that the mixture is settled at fallen temperature from 0° to 20°C till clarification with its further filtering.

A ready liquor is obtained by pouring water or an ethanol spirit into the filtered mixture to make 28% or 40% vol. alcohol in the liquor. This liquor is poured into sealed containers (for example, bottles). The liquor poured into corked bottles can be stored without reduction of its biological-active properties at ambient temperature within 6 months term, or at temperature from -2 to 0° C for about one year.

Carried out approbation of this product has shown that utilization such basic raw material as sea urchin eggs and application an inventive individual method for producing the product allows to achieve a quality new technical result – produced liquor can be used not only as a strong alcoholic beverage having unique organoleptical properties but also as a treatment-and-prophylactic remedy containing a rich set of biologically active chemical compounds, which application is useful for rising immunity against infectious diseases, at ischemic illness of heart, an atherosclerosis, a leukemia, infringements of a thyroid gland, a sexual potency, an intoxication (before the use of alcohol), for deducing radionuclides, at infringements of nervous system and a gastrointestinal path.